

WILDLIFE MANAGEMENT UNIT 6 - CHALK CREEK

Boundary Description

Summit and Duchesne counties - Boundary begins at the junction of Interstates 84 and 80 near Echo; then northeast on I-80 to the Utah-Wyoming state line; south and east along this state line to Highway SR-150; south on SR-150 to Pass Lake and the Weber River Trail; west on this trail to Holiday Park and the Weber River road; west on this road to Highway SR-32; north and west on SR-32 to I-80 and Wanship; north on I-80 to I-84 near Echo.

Management Unit Description

Management unit 6 contains an estimated 395,397 total acres (summer and winter ranges combined) of mule deer range, of which 90% lies on private land. Unit 6 contains an estimated 435,170 total acres of elk range, of which 91% lies on private lands. Widespread private ownership, and subsequent control of the land, leads to numerous management complications. Unregulated development and loss of habitat are some of the biggest problems. The discovery, development, and removal of oil throughout the unit, especially the Chalk Creek area, has led to increased road and housing developments. Agricultural projects on critical winter range also continue to increase depredation problems and further decrease the range available to big game. Because of the preponderance of private land and the establishment of hunting clubs, access is severely restricted for trophy hunting on large portions of the unit. Private landowners are also less likely to undertake extensive rehabilitation projects to improve the value of the remaining range for wildlife. This unit has the largest acreage requirement of range needed to be acquired for any herd unit in the state. Unfortunately, the high cost of the land would probably prevent the acquisition of this critical range.

The topography of the unit is influenced mainly by the Uinta mountains to the east, with their drainages flowing through long, gradual slopes down into the Weber River Valley. Other major drainages include Crandall Canyon, Chalk Creek, Echo Canyon, Hixon and Pecks Canyons, and Grass Creek. The southern exposures of these canyons are especially important winter range. The rest of the winter range is found in the low rolling foothills of the western and central parts of the unit. The upper limits vary between approximately 6,800 and 7,200 feet (Giunta 1979).

Towns are located in the valley along the Weber River. They include Peoa, Wanship, Hoytsville, and Coalville. Echo and Rockport reservoirs, located on the west side of the unit on the Weber River, are both significant barriers to big game movement. Additionally, I-80 through Echo Canyon serves to discourage big game movement, and deer losses are high on the highway in winter and spring.

In the 1977 range inventory, the winter range was classified into 12 distinct vegetation types (Giunta 1979). Of these, seven of the larger, more important types were sampled. The sagebrush-grass and oakbrush types were the most prevalent. The sagebrush-grass type is quite variable with basin big sagebrush, mountain big sagebrush, and Wyoming big sagebrush all occurring within the unit, being found on a variety of exposures, slopes, and elevations. In the 1977 inventory, it occupied 36% of the normal winter range and produced 33% of the total production. It was even more important on severe winter range, occupying 43% of the available range. The oakbrush type, which covered 32% of the winter range, was the most productive type, but becomes largely unavailable in severe winters. This type intergrades with the sagebrush-grass and other types. Other important types are juniper, especially important for thermal cover, and mountain brush. Air dry production from the 1977 range inventory report are as follows: aspen, 435 lbs/acre; juniper, 240 lbs/acre; sagebrush-grass, 383 lbs/acre; mountain brush, 510 lbs/acre; oakbrush, 580 lbs/acre; grassland, 285 lbs/acre.

Fires in recent years have destroyed large tracts of important range in the Chalk Creek unit. Because of this habitat loss, increasing numbers of mule deer, elk, and moose tend to concentrate in the lower areas on agricultural land and at mouths of canyons, especially during severe winters.

Big Game Management Objectives

Management options are rather limited in this herd unit because of the prevalence of private land on both winter and summer ranges. The herd unit management plan in 1983 (Kearl 1983) stated a harvest objective of 2,500 to 3,000 bucks per year and outlined various management programs and numerous problems with possible solutions. In the 1998 management plan, annual buck harvest was expected to be about 1,600 under normal conditions, with a target population size of 11,500 wintering animals (modeled number). This is significantly lower than the 1983 plan. It is more practical to look at the regression of buck harvests since 1950 to get a better understanding of the overall trend since then. The analysis demonstrates an increased buck harvest since 1950 even with the great deal of variation for buck harvest beginning with 2,031 and increasing to 2,323 in 1990. This variation can be further depicted by some low harvests in the 1950's, 60's, and 70's of around 900, and high harvests of over 3,000 in the mid-50's and early-80's. Management of the deer herd is further complicated by the presence of other big game species, migrations, excessive road kills on I-80, and many hunting restrictions. Elk management objectives (1998) call for a target winter herd size of 1,900 animals, a postseason bull to cow ratio of 8:100, with at least 4 bulls being 2½ years or older.

A serious problem in this unit is the composition of herbaceous understories, which on most sites is mostly made up of annual species, primarily cheatgrass. Understories that are dominated by annual species can prohibit sagebrush seedling establishment, especially during Utah's hot, dry summers. Another serious concern is the rapidly increasing loss of critical wintering habitat through urbanization. A DWR program to acquire additional land and/or conservation easements, and landowner cooperation are necessary to help perpetuate the big game herds on this unit.

Range Trend Studies

A total of 12 trend studies are located in management unit 6. All of the transects established in 1984 were located on important big game winter ranges. Six of the 19 line intercept transects established in 1977 were in areas considered important for continued monitoring. These transects were reread and replaced with new interagency trend studies. In addition, 1 new study was established in 1990, and another in 1996. All of the transects in this unit are located on private land, except the Hixon Canyon and Echo Canyon Rest Area studies which are located on DWR property. All of the trend studies that were established in 1984 were reread in 1990. Project personnel attempted to reread all of the trend studies in both 1996 and 2001, but a few of the studies were not read in either 1996 or 2001 due to difficulty getting permission and/or access to privately owned lands.

SUMMARY

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Of the 11 trend studies in this management unit, nine studies were reread in 2001, and two studies were not read because access through private lands was not obtained. The studies that were not read, Hixon Canyon and South Fork Chalk Creek, will be reevaluated during the next rotation.

Unit Wide Trends

Key browse is limited on several of the trend studies in this management unit. Trend studies at Echo Canyon Rest Area (6-2) and Spring Hollow Burn (6-3) have very little key browse due to fires burning through these areas. Trend studies at Echo Reservoir (6-4) and Spring Canyon (6-5) sample climax Utah juniper communities where key browse species have been nearly eliminated from the vegetation component due to high competition for resources with the juniper.

Cheatgrass decreased in nested frequency on five of the eight studies where it was sampled in 2001. It remained stable on two other studies, and increased on one study due to disturbance (Echo Canyon Rest Area, 6-2). There was no defined pattern in the overall abundance of grasses and forbs in 2001. Sum of nested frequency of perennial grasses and forbs remained stable or increased on about half of the studies in the unit, and decreased on the other half. Annuals grasses decreased on four studies, remained stable on four others, and increased on only one site (Echo Canyon Rest Area, 6-2). Annual forbs increased on five studies, remained stable on two sites, and decreased on two others.

Precipitation

Precipitation data from two weather stations within management unit 6, Echo Dam and Wanship Dam, was analyzed for the past two decades. From 1980-1986, both areas showed above normal annual precipitation, including the severe winters of the early-80's. Four consecutive years of below normal annual precipitation from 1987-1990 provides evidence to references made to extended drought in this and previous range trend studies reports. The early-to-mid-90's brought alternating years of above and below normal annual precipitation. The period from 1995-1998 again brought consecutive years of above normal annual precipitation. The spring and early summer of 2000 and 2001 were both very dry in this area, which helps explain the decline in cheatgrass frequency and/or cover on more than half of the studies in the unit.

Trend Summary

	Category	1984	1990	1996	2001
6-1 Anshutz Ranch	soil	est	3	4	3
	browse	est	3	4	3
	herbaceous understory	est	3	3	2
6-2 Echo Canyon Rest Area	soil			est	2
	browse			est	1
	herbaceous understory			est	3

(1) = down, (2), slightly down, (3) = stable, (4) = slightly up, (5) = up
(est) = site established, (susp) = suspended, (NR) = not read

	Category	1984	1990	1996	2001
6-3 Spring Hollow Burn	soil	est	1	NR	3
	browse	est	1	NR	3
	herbaceous understory	est	3	NR	4
6-4 Echo Reservoir	soil	est	2	4	3
	browse	est	1	1	1
	herbaceous understory	est	4	2	4
6-5 Spring Canyon	soil	est	2	2	3
	browse	est	1	1	1
	herbaceous understory	est	1	3	3
6-6 Hixon Canyon	soil	est	1	3	NR
	browse	est	1	1	NR
	herbaceous understory	est	4	1	NR
6-7 Crandall Canyon	soil	est	1	4	2
	browse	est	1	4	3
	herbaceous understory	est	3	3	3
6-8 South Fork Chalk Creek	soil	est		4	NR
	browse	est		3	NR
	herbaceous understory	est		2	NR
6-9 North Oakley Bench	soil	est	3	4	3
	browse	est	3	4	3
	herbaceous understory	est	4	3	3
6-10 Mahogany Hills	soil	est	3	3	3
	browse	est	3	2	2
	herbaceous understory	est	3	4	2
6-12 Stag Canyon	soil	est		est	3
	browse	est		est	5
	herbaceous understory	est		est	3

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